

87256

July-11-12 12:44:27 PM

N900040100

Setup Start *NS1*

Stop *NS2*

10

Cust Item ID:

10

Customer:

Reference:

Run Start *NR1*

Date: 12-07-12 Tooling:

Date:

Stop *NR2*

QC:

Date: _____ **SPC (Y/N):** _____

Date:

[illegible]

0.00

100

100

PURCHASING

0.00

Purchasing

Memo

Purchasing

Issue P/O: 17988 a)Description: Alluminum round billet b)
Ø3.500" x 12.500" long c) Tolerance on all dimensions are +0.030"/-0.000"

d) Material: 7075-T7351 (QQ-A-225/9) Material certification required

110

Receive & Inspect for Damage & Mat'l Certs	0.00
--	------

110

Packaging

Memo

Packaging

Ensure material certification is attached

120

QC6- Inspect dimensions to drawing

120

QC

Memo

Quality Control

0.00

0.00

DAS
16
9-80

DAS 16
9-89

70

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 87256

87256

Page 2

July-11-12 12:44:27 PM

Item ID: D6103-003 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Round Billet, Aluminum
 Start Date: 7/10/12 Start Qty: 10.00 ***10*** Cust Item ID:
 Required Date: 8/10/12 Req'd Qty: 10.00 ***10*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <i>MAT 43</i>	0.00							
130									
Packaging	Memo	0.00				<i>10</i>	<i>0</i>		
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

12/8/08
MLJ 12/08/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-11-12 12:44:27 PM

Page 1

Work Order ID: 87256

Parent Item: D6103-003

Parent Item Name: Round Billet, Aluminum

Start Date: 7/10/12

Required Date: 8/10/12

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP Rev:A New Issue 06-02-09 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6103-003P round alum billet		Purchased	No			110	Each	0.0000	1	10		6/12/12 (10)	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

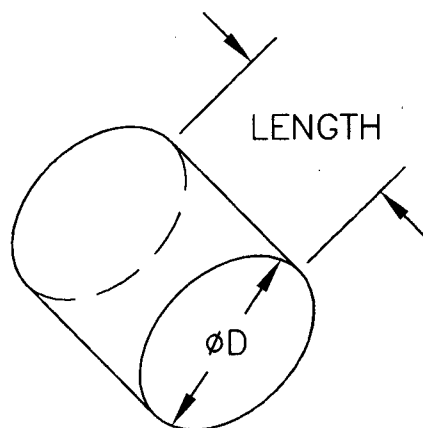
NOTE: Date & initial all entries



DESIGN <i>P41</i>	DRAWN BY <i>P41</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D6103	Rev. B SHEET 1 OF 1
DATE 06.01.31		TITLE ROUND BILLET, ALUMINUM	SCALE NTS
A	01.04.10	NEW ISSUE	
B	06.01.31	ADD D6103-003	

SPECIFICATION CONTROL DRAWING

RELEASED
06.02.07



87256
01207-12

12/08/11
OK

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	D (Diameter)	Length
D6103-001	7075-T6/T651 (QQ-A-200/11 OR QQ-A-225/9)	Ø3.250	12.50
D6103-003	7075-T7351 (QQ-A-225/9)	Ø3.500	12.50

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NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY									
Landing Gear			General						
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced					
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure					
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld					
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled					
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved						
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong	<input type="checkbox"/> Other					
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge						
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset							
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration							
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence							
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions							

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 1

Shipment No:1408204

Ship From: A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 30-JUL-2012	F.O.B. ORIGIN	Freight Terms Prepaid	Carrier MANITOULIN		BOL No 1408204-2		

Shipment Details	Final Destination Branch - MON
-------------------------	---------------------------------------

Order No 2322476	Line No 1	Item No 8808.MO	Description 3.5000..RD.7075.T7351.ALUMINUM.CF.144.0000 CUT TO 12.5 IN (+ .0620/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: QQ-A-225/9				
Purchase Order No 17488		Part Number YOUR ITEM NUMBER: D6103-003		Ordered Qty 10.00 PCS		Invoice Qty 10.00 PCS	
Details							
Delivery No. 117818961	Mill ALCOA INC	Heat Number MA011003333	Mech Id	PCS 10	Width (IN)	Length (IN)	Shipped Qty(LBS) 121.2537

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

Name:

amc 12/08/01

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.

Date Printed: 30-JUL-2012 01:46:45 PM

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662



Customer: **Castle A M & Co** Customer P.O. No.: **109532** Customer Part No.: **(8808)** Alcoa Order No.: **MMC-97150-002** Govt. Contract No.:

Actual Started Chemistry

LOT/WORK ORDER		%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%OE	%OT	%AL			
MA011003332	MAX	0.08	0.15	1.6	0.02	2.5	0.20	5.7	0.02	LT 0.05	LT 0.15	Rem			
	MIN	0.06	0.12	1.4	0.01	2.3	0.20	5.5	0.02						
MA011003333	MAX	0.08	0.12	1.6	0.02	2.5	0.20	5.7	0.02	LT 0.05	LT 0.15	Rem			
	MIN	0.07	0.12	1.4	0.02	2.3	0.20	5.5	0.02						
MA011004085	MAX	0.08	0.15	1.6	0.02	2.5	0.20	5.7	0.02	LT 0.05	LT 0.15	Rem			
	MIN	0.06	0.12	1.4	0.01	2.3	0.20	5.5	0.02						

NOTES:

Mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product.
This alloy meets the requirements of EU 2002/95/EC (RoHS) and EU 2000/53/EC for lead, mercury, cadmium and hexavalent chromium.

ent 12/08/01

Castle Metals FP

HEAT NUMBER MA011003333
MECHANICAL ID _____
ITEM CODE 8808
LOT NUMBER _____
PO NUMBER 109532
RECEIPT DATE 5-31-2011
SUPPLIER ALCOA
SPECIFICATION _____
LCS NO
COMMENT _____
APPROVED BT

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662



Customer Castle A M & Co	Customer P.O. No. 109532	Customer Part No. (8808)	Alcoa Order No. MMC-97150- -002	Govt. Contract No.
Ship To A. M. Castle & Company 3400 North Wolf Road Bay #7 Franklin Park, IL 60131			We hereby certify that the material covered in this report has been inspected in accordance with, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and have the mechanical properties shown on the face of this sheet. Manufactured under an ISO/QS-9000 registered quality management system. Melted and manufactured in the USA. Thomas J. Klemp, Quality Assurance Manager	
Date Shipped 05/25/11	Weight Shipped 10,104 lbs	Product CFRB-CF ROD	Specific Length	BOL 000159457
Alloy - Temper 7075-T7351	Size 3.50000 IN	Shape DIA	Config 12 FT	QRR

Specifications:

Q97075-11 Rev 10 w/exc & comments per T
Klemp email dtd 1/5/10
Material conforms to T73 requirements
Minimum mechanical properties to apply:
8 KSI Tensile Strength
6 KSI Yield Strength
0% Elongation
AMS 4124D (Except Size)
QA-225/9E (Except Size)
STM B211-03 (Except Size)
MS-QQA-225/9 (Except Size)

Product produced and marked to the requirements of AMS-QQ-A-225/9 also meets the requirements of QQ-A-225/9.
Product produced and marked to the requirements of AMS-QQ-A-225/9 also meets the requirements of AMS-QQ-A-225/9.

TEST REQUIREMENTS	Test	Test	Test	Test	Test	Test	Test	Test	Test	Test
	U.T.S.	T.Y.S.	%Elong	Cond						
Max:		67.9								
Min:	68.0	56.0	10.0	38.0						

Test Results	Lot / Work Order	No. of Tests	Test	Test	Test	Test	Test	Test	Test	Test	Test
			U.T.S.	T.Y.S.	%Elong	Cond					
1A011003332	1	Max:	72.3	61.2	15.0	41.1					
		Min:	72.3	61.2	15.0	41.1					
1A011003333	1	Max:	71.0	59.4	15.0	41.4					
		Min:	71.0	59.4	15.0	41.4					
1A011004085	1	Max:	72.3	61.0	15.0	40.9					
		Min:	72.3	61.0	15.0	40.9					

TEST ABBREVIATIONS

U.T.S. Ultimate Tensile Strength KSI
Cond Conductivity % IACS

T.Y.S. Tensile Yield Strength KSI

%Elong Elongation % in 2"

Aluminum Association Chemical Composition Limits (in Weight %)

ALLOY	MAX	%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%Others	%Others	%AL			
7075	MIN	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15	Rem			
				1.2		2.1	0.18	5.1		Each	Total				

OK 12/08/01